

What is claimed is:

1. A system comprising:
an implantable drainage device having a valve coupled to an intake conduit and
5 an external plate, the valve providing a resistance to fluid flowing through the intake
conduit; and
a linear member configured for insertion through the valve thereby reducing the
resistance.
- 10 2. The system of claim 1 wherein the linear member includes a tube adapted to
bypass the valve.
3. The system of claim 2 wherein the tube includes a flange at a first end.
- 15 4. The system of claim 2 wherein the tube includes a plurality of barbs on an
exterior surface of the tube.
5. The system of claim 2 wherein the tube includes at least one hole in a wall.
- 20 6. The system of claim 1 wherein the linear member includes a shape memory
material having a first configuration at a first temperature and a second configuration at
a second temperature, wherein in the second configuration, the linear member is
adapted to bypass the valve.
- 25 7. The system of claim 1 wherein the linear member includes a rod adapted to
bypass the valve.
8. The system of claim 7 wherein the rod includes a plurality of barbs on an
exterior surface.
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9. The system of claim 7 wherein the rod is porous.

10. The system of claim 1 wherein the linear member includes at least one of any combination of polyimide, silicone, polytetrafluoroethylene, polypropylene, polymethyl
5 methacrylate, acrylic, polyurethane, silastic and metal.

11. The system of claim 1 wherein the linear member includes at least one of any combination of a laser light source and a micro-catheter cutter.

10 12. An implantable device comprising:
a flange;
a tubular shaft concentrically affixed to a face of the flange; and
a plurality of barbs on an exterior surface of the tubular shaft, and
wherein the plurality of barbs are configured to stabilize the tubular shaft
15 relative to an interior surface of an intake conduit of a drainage device wherein the tubular shaft bypasses a valve coupled to the intake conduit.

13. The device of claim 12 wherein the flange is adapted to engage an end of the intake conduit.
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14. The device of claim 12 wherein the tubular shaft includes at least one of any combination of polyimide, silicone, polytetrafluoroethylene, polypropylene, polymethyl methacrylate, acrylic, polyurethane, silastic and metal.

25 15. The device of claim 12 wherein the plurality of barbs are disposed over a length of the tubular shaft.

16. The device of claim 12 further including at least one hole in a wall of the tubular shaft.
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17. An implantable device comprising:
an intake conduit; and
a flow controller coupled to the intake conduit, the flow controller having a first
mode that provides a first resistance to a fluid entering the intake conduit and a second
5 mode that provides a second resistance to the fluid and wherein the second mode is
remotely selectable; and
wherein the second resistance is less than the first resistance.
18. The device of claim 17 wherein the fluid drains from the flow controller at a
10 first discharge port when in the first mode and at a second discharge port when in the
second mode.
19. The device of claim 18 wherein the first discharge port differs from the second
discharge port.
- 15 20. The device of claim 17 wherein the flow controller includes a bypass port that
presents a high flow resistance in the first mode and a low flow resistance in the second
mode.
- 20 21. The device of claim 20 wherein the bypass port includes a discharge conduit
coupled to the flow controller.
22. The device of claim 17 wherein the flow controller includes a biodegradable
polymer.
- 25 23. The device of claim 22 wherein the biodegradable polymer is porous or foamed.
24. The device of claim 22 wherein the biodegradable polymer includes at least one
of any combination of polylactic acid, polyglycolic acid, poly lactide-co-glycolide,
30 polycaprolactone, and poly-1-lactic acid.

25. The device of claim 17 wherein the flow controller includes an enzymatic or hydrolytic degradable material.

5 26. The device of claim 17 wherein the flow controller includes a material sensitive to at least one of any combination of a predetermined pH, a predetermined magnetic field, a predetermined ultrasonic signal, a predetermined electric field, a predetermined DC current, a predetermined temperature, a predetermined light signal and a predetermined mechanical stimulation.

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27. The device of claim 17 wherein the flow controller includes a polymer having at least one of any combination of gold colloidal particles and ferromagnetic particles.

28. The device of claim 17 wherein the flow controller includes a gold membrane.

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29. The device of claim 17 wherein the flow controller includes a first valve.

30. The device of claim 29 further wherein the flow controller includes a second valve and wherein,

20 when in the first mode, the second valve is in a closed position and,
when in the second mode, the second valve is in an open position.

31. The device of claim 29 further wherein the flow controller includes a flow resistor having a selectable flow resistance and wherein,

25 when in the first mode, the flow resistor provides a high flow resistance and,
when in the second mode, the flow resistor provides a low flow resistance.

32. The device of claim 31 wherein the flow resistor includes a plug.

30 33. The device of claim 17 wherein the flow controller includes a first flow resistor.

34. The device of claim 33 wherein the first flow resistor includes a plurality of channels.
- 5 35. The device of claim 33 wherein the first flow resistor is porous.
36. The device of claim 33 further wherein the flow controller includes a second flow resistor having a selectable flow resistance and wherein,
when in the first mode, the second flow resistor provides a high flow resistance
10 and,
when in the second mode, the second flow resistor provides a low flow resistance.
37. The device of claim 36 wherein the second flow resistor includes a plug.
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38. The device of claim 33 wherein,
when in the first mode, the first flow resistor provides a high flow resistance
and,
when in the second mode, the flow controller provides a low flow resistance.
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39. The device of claim 29 wherein the second mode is selected when the first valve is maintained in an open position.
40. The device of claim 29 wherein the second mode is selected when at least a
25 portion of the first valve is removed.
41. The device of claim 29 wherein the first valve includes an elastic membrane.
42. The device of claim 29 wherein the first valve includes an elastic membrane
30 subjected to a first tension and wherein the second mode is selected when the elastic

membrane is subjected to a second tension different from the first tension.

43. The device of claim 41 further including a membrane support configured to exert a first tension on the elastic membrane and wherein the second mode is selected
5 when a portion of the membrane support is removed.

44. The device of claim 43 wherein the membrane support includes a plurality of pins and wherein the portion includes at least one pin of the plurality of pins.

10 45. The device of claim 17 wherein the flow controller includes an electromagnetically sensitive valve.

46. The device of claim 17 wherein the flow controller includes flow resistor sensitive to an electromagnetic signal or an electrochemical signal.

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47. The device of claim 17 wherein the flow controller includes a material that is weakened upon exposure to a predetermined magnitude of at least one of any combination of electromagnetic stimulus, ultrasonic stimulation, magnetic stimulation, electric field stimulation, a temperature, light or mechanical stimulation.

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48. The device of claim 17 wherein the flow controller includes a material that is weakened upon exposure to at least one of any combination of a predetermined level of pH, a predetermined enzyme and a predetermined energy level.

25 49. The device of claim 17 wherein the flow controller includes a material that is weakened upon exposure to a biological environment after a predetermined period of time.

50. A method comprising:

inserting a linear member in an intake tube of an implantable drainage device,
the intake tube coupled to a valve and an external plate, the valve providing a resistance
to fluid flowing through the intake conduit; and

5 positioning the linear member in a manner to reduce the resistance presented by
the valve.

51. The method of claim 50 wherein positioning the linear member includes
bypassing the valve.

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52. The method of claim 51 further including engaging a plurality of barbs on a
surface of the linear member with a lumen of the intake tube.

53. The method of claim 51 further including engaging a flange on the linear
15 member with an orifice of the intake tube.

54. The method of claim 50 wherein positioning the linear member includes:
manipulating a laser light source; and
ablating a portion of the elastic membrane.

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55. The method of claim 50 wherein positioning the linear member includes:
manipulating a mechanical cutter; and
removing a portion of the elastic membrane with the cutter.

25 56. The method of claim 50 further including thermally soaking the linear member
at a first predetermined temperature; and
wherein positioning the linear member includes:
maneuvering the linear member into a position proximate the valve while
at a temperature approximately that of the first predetermined temperature; and

changing a shape of the linear member upon exposure to a second predetermined temperature, wherein the first predetermined temperature differs from the second predetermined temperature.

5 57. A method comprising:

 providing an implantable conduit for fluid drainage, the conduit having a first resistance to fluid flow in a first mode and a second resistance to fluid flow in a second mode, the first resistance greater than the second resistance; and

 exposing the conduit to a stimulus wherein the stimulus is tailored to transition
10 the conduit from the first mode to a second mode.

58. The method of claim 57 wherein exposing the conduit to the stimulus includes exposing the conduit to at least one of any combination of an electric field, a DC current, a magnetic field, an ultrasonic signal, an enzyme, hydrolysis, a pH level, a
15 predetermined temperature, a light signal, a mechanical stimulation and a biological fluid.

59. The method of claim 57 wherein exposing the conduit to the stimulus includes opening a valve or changing a resistance of a fluid resistor.
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60. The method of claim 59 wherein changing the resistance of the fluid resistor includes removing a plug.

61. A system comprising:
25 a drainage device having an intake conduit coupled to an external plate; and
 a flow resistor adapted for insertion in a lumen of the intake conduit.

62. The system of claim 61 wherein the drainage device includes at least one of a valveless glaucoma drainage device, a glaucoma drainage device having a bypassed

valve, a glaucoma drainage device having a disintegratable valve and a glaucoma drainage device having a dissolvable valve.

63. The system of claim 61 wherein the flow resistor includes at least one barb on
5 an external surface.

64. The system of claim 61 wherein the flow resistor includes a plurality of beads.

65. The system of claim 61 wherein the flow resistor includes at least one bore.
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66. The system of claim 61 wherein the flow resistor includes a biodegradable polymer.

67. The system of claim 61 wherein the flow resistor is remotely removable.
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68. The system of claim 61 wherein the flow resistor includes a plug.

69. A device comprising:
a flow resistor adapted for placement in a lumen of an intake conduit of an
20 implantable drainage device; and
at least one barb on an external surface of the flow resistor.

70. The device of claim 69 wherein the flow resistor includes a plurality of beads.

25 71. The device of claim 69 wherein the flow resistor includes at least one bore.

72. The device of claim 69 wherein the flow resistor includes a biodegradable polymer.

30 73. The device of claim 69 wherein the flow resistor is remotely removable.

74. The device of claim 69 wherein the flow resistor includes a plug.

75. The device of claim 69 wherein the flow resistor includes at least one of any
5 combination of polyimide, silicone, polytetrafluoroethylene, polypropylene, polymethyl
methacrylate, acrylic, polyurethane, silastic and metal.